Why an Eelgrass Indicator?

Eelgrass is a good ecological indicator

Valuable

Provides key ecosystem functions
- habitat for listed species & forage fish
- production supplies base of food web

Responsive

Sensitive to ecosystem degradation
(global pattern of seagrass decline)
- loss of water clarity (nutrients, susp. solids)
- physical disturbance (dredge & fill, prop. wash)
- overwater structures & bulkheads

A focus of state resource management

Protections

HPA (WDFW); SMA (Ecology); GMA (Commerce)
Use authorizations (DNR)

Monitoring

Annual Puget Sound monitoring by DNR

Indicator

Dashboard Indicator; State of the Sound

Science Assessment

- Review of seagrass targets in other estuaries:

  Measure: seagrass area used in each case – overall and within sub-basins that vary in ecology and stressors

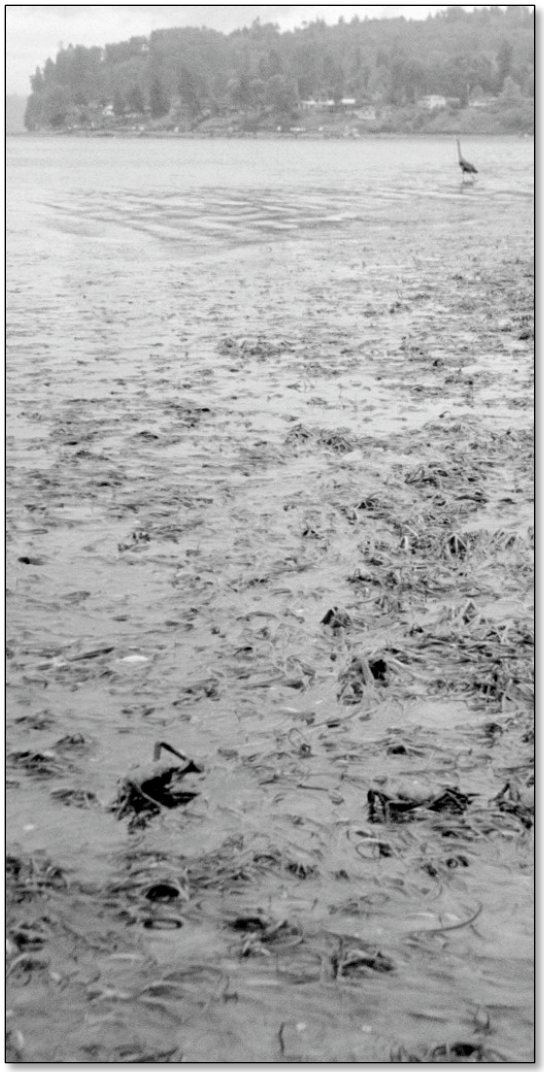
  Basis for target: historical seagrass conditions used in each case

  Progress: seagrass gains observed in response to management actions – primarily water quality improvements – up to 86% over 30 years in Chesapeake Bay

- No reliable estimates of historical or potential eelgrass area over Puget Sound.
  - Erroneous or misleading historical estimates exist in the literature
  - Concern is widespread that losses have occurred based on level of nearshore and upland alteration

- Monitoring provides evidence of current decline
  - Prevalence of site declines is persistent in 2000-2009 record

Proposed Eelgrass Target



20% increase in eelgrass area in Puget Sound by 2020

- Science-based: follows DNR science assessment developed over 6 months. Anonymous peer-review refereed by Chair of Science Panel.
- Integrates Science & Policy
  - Challenged by lack of historical eelgrass information
  - Intended to be aggressive
  - Considered legislative mandate of restoration
  - Relied on precedents from other estuaries
  - Of estuaries reviewed that achieved seagrass increase, mean gain= 18% (median = 21%)